

ANNUAL WATER QUALITY REPORT

Water testing performed in 2006



Proudly Presented By:

OTIS AIR
NATIONAL
GUARD BASE

PWS ID#: MA4096001

Source Water Assessment and Protection

SWAP Explanation

The Source Water Assessment and Protection (SWAP) program, established under the federal Safe Drinking Water Act, requires every state to inventory land uses within the recharge areas of all public water supply sources; to assess the susceptibility of drinking water sources to contamination from these land uses; and to publicize the results to provide support for improved protection.

What is my system's ranking?

A susceptibility ranking of high was assigned to this system due to the absence of hydrogeologic barriers (i.e., clay), which can prevent contaminant migration.

Where can I see the SWAP report?

Information on obtaining the complete SWAP report is available by contacting the water supply superintendent at (508) 968-4102. The report is also available online at www.mass.gov/dep/water/drinking/4096001.pdf.

Potential Sources of Contamination

Being a military facility, Otis ANG Base, has the potential of having fuel, chemicals and other material(s) as possible sources of contamination.

Information on the Internet

The U.S. EPA Office of Water (www.epa.gov/watrhome) and the Centers for Disease Control and Prevention (www.cdc.gov) Web sites provide a substantial amount of information on many issues relating to water resources, water conservation and public health. Also, the DEP has a Web site (www.mass.gov/dep) that provides complete and current information on water issues in Massachusetts, including valuable information about our watershed.

Continuing Our Commitment

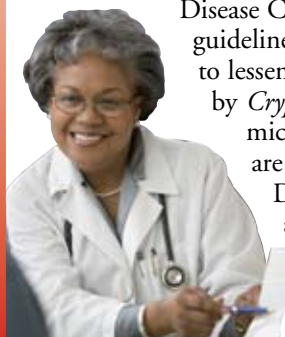
Once again we proudly present our annual water quality report. This edition covers all testing completed from January 1 through December 31, 2006. We are pleased to tell you that our compliance with all state and federal drinking water laws remains exemplary. As in the past, the 102nd Fighter Wing is committed to delivering the best quality drinking water. To that end, we remain vigilant in meeting the challenges of source water protection, water conservation, and community education while continuing to serve the needs of all of our water users.

For more information about this report, or for any questions relating to your drinking water, please call the water supply superintendent, Thomas Creighton, at (508) 968-4102.

Important Health Information

Some people may be more vulnerable to contaminants in drinking water than the general population. Immunocompromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants may be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. The U.S. EPA/CDC (Centers for

Disease Control and Prevention) guidelines on appropriate means to lessen the risk of infection by *Cryptosporidium* and other microbial contaminants are available from the Safe Drinking Water Hotline at (800) 426-4791.



Substances That Might Be in Drinking Water

To ensure that tap water is safe to drink, the Department of Environmental Protection (DEP) and the U.S. Environmental Protection Agency (U.S. EPA) prescribe regulations limiting the amount of certain contaminants in water provided by public water systems. The Food and Drug Administration (FDA) and Massachusetts Department of Public Health (DPH) regulations establish limits for contaminants in bottled water, which must provide the same protection for public health. Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of these contaminants does not necessarily indicate that the water poses a health risk.

The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity. Substances that may be present in source water include:

Microbial Contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, or wildlife;

Inorganic Contaminants, such as salts and metals, which can be naturally occurring or may result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming;

Pesticides and Herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses;

Organic Chemical Contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and which may also come from gas stations, urban stormwater runoff, and septic systems;

Radioactive Contaminants, which can be naturally occurring or may be the result of oil and gas production and mining activities.

More information about contaminants and potential health effects can be obtained by calling the U.S. EPA's Safe Drinking Water Hotline at (800) 426-4791.

Is It Safe to Drink Water from a Garden Hose?

Substances used in vinyl garden hoses to keep them flexible can get into the water as it passes through the hose. These chemicals are not good for you, nor are they good for your pets. Allow the water to run for a short time in order to flush the hose before drinking or filling your pet's drinking containers. Hoses made with food-grade plastic will not contaminate the water. Check your local hardware store for this type of hose.

How Is My Water Treated and Purified?

All water passing through the Otis Public Water Supply system is filtered through a granular-activated carbon unit, more commonly known as a GAC unit. This filtration media is used to remove organic, i.e., carbon-based, substances from water. The water is then treated with potassium carbonate, sodium fluoride, and sodium hypochlorite. The water in this geographic area is naturally acidic, with an average pH of 5.9 (7.0 is neutral). Acidic water can be harmful to the distribution system. Potassium carbonate is used to buffer the water to as close to a neutral pH as possible. At the request of the U.S. Coast Guard (the owner and operator of the family housing area), sodium fluoride is added to the water. This compound has proven effective in strengthening teeth. Finally, sodium hypochlorite is used to disinfect the water supply by killing bacteria.

Massachusetts' Perchlorate Standards Takes Effect

Massachusetts became the first state in the nation to promulgate drinking water standards for the chemical perchlorate, setting the standard at 2 parts per billion (ppb), state officials announced on July 28, 2006. The new regulations require most public water systems to regularly test for perchlorate.

Perchlorate is a chemical that can be found in blasting agents, fireworks, military munitions, fertilizers, air bag inflators, road flares, and the use of perchloric acid in laboratories and manufacturing. Additionally, numerous studies are underway to investigate the natural occurrence of perchlorate.

The 102nd Fighter Wing has been proactive in testing for perchlorate; test results show that the levels of perchlorate in our drinking water were less than half the Massachusetts allowable standard. More information on the regulation can be found at Massachusetts Department of Environmental Protection Web site at <http://mass.gov/dep/water/drinking/percinfo.htm>.

Naturally Occurring Bacteria

The simple fact is, bacteria and other microorganisms inhabit our world. They can be found all around us: in our food; on our skin; in our bodies; and, in the air, soil and water. Some are harmful to us and some are not. Coliform bacteria are common in the environment and are generally not harmful themselves. The presence of this bacterial form in drinking water is a concern because it indicates that the water may be contaminated with other organisms that can cause disease. Throughout the year, we tested more than 150 samples (more than 13 samples every month) for coliform bacteria. In that time, 2 of the samples came back positive for the bacteria. Federal regulations now require that public water testing positive for coliform bacteria must be further analyzed for fecal coliform bacteria. Fecal coliforms are present only in human and animal waste. Because these bacteria can cause illness, it is unacceptable for fecal coliforms to be present in water at any concentration. Our tests indicate no fecal coliform is present in our water.

Lead in Drinking Water

Infants and young children are typically more vulnerable to lead in drinking water than the general population. It is possible that lead levels at your home may be higher than at other homes in the community as a result of materials used in your home's plumbing. If you are concerned about elevated lead levels in your home's water, you may wish to have your water tested and flush your tap for 30 seconds to 2 minutes before using tap water. Additional information is available from the Safe Drinking Water Hotline (800-426-4791).

Stormwater Pollution Prevention

Stormwater discharges have been identified as a significant source of water pollution in numerous nationwide studies of water quality. Each building/area operated by the 102nd Fighter Wing has been evaluated and categorized, and Best Management Practices (BMP) have been implemented at industrial areas to ensure that processes do not adversely impact any stormwater runoff. BMPs include good housekeeping practices, minimization of exposure, spill-prevention measures, construction of secondary containment structures, management of stormwater runoff, and employee training. For the 102nd Fighter Wing, mandatory quarterly visual monitoring and voluntary quarterly analytical testing is conducted at each outfall area. The results of these examinations have not shown any detrimental effects on the quality of stormwater from the activities conducted by the 102nd Fighter Wing.

Where Does My Water Come From?

Our drinking water supply is provided entirely by groundwater. J-Well, which is located on Herbert Road, is our primary pumping station. We are also connected to the Upper Cape Regional Water Supply Cooperative. The Cooperative's water sources come from three wells located in the northeastern corner of Camp Edwards. On average, we provide 300,000 gallons of quality water every day. All of the Otis public water supply is drawn from the Sagamore Lens of the Cape Cod single-source aquifer. This lens runs from the Cape Cod Canal eastward into the town of Yarmouth. To learn more about our watershed on the Internet, go to the U.S. EPA's Surf Your Watershed Web site at www.epa.gov/surf.

Community Participation

On-base residents are also invited to raise any questions or concerns regarding drinking water at the Air Station Cape Cod community meeting. The date and time of this annual event will be posted in the Otis Notice.

Cross-Connections

Cross-connections risk contamination of the water distribution system when pressure in drinking water lines drop (backsiphonage) or is less than pressure in equipment attached to the system (backpressure). Community water supplies are continually jeopardized by cross-connections unless appropriate valves, known as backflow prevention devices, are installed. We survey all industrial, commercial, and institutional facilities in the service area to ensure that potential cross-connections are identified and eliminated or protected by a backflow preventer. We also test each backflow preventer to make certain it is providing maximum protection.

For more information, visit the Web site of the American Backflow prevention Association (www.abpa.org) or contact the Water Superintendent at (508) 968-4102.

Sampling Results

During the past year we have taken hundreds of water samples in order to determine the presence of any radioactive, biological, inorganic, volatile organic or synthetic organic contaminants. The table below shows only those contaminants that were detected in the water. Although all of the substances listed here are under the Maximum Contaminant Level (MCL), we feel it is important that you know exactly what was detected and how much of the substance was present in the water. The state allows us to monitor for certain substances less than once per year because the concentrations of these substances do not change frequently. In these cases, the most recent sample data are included along with the year in which the sample was taken.

REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Alpha Emitters (pCi/L)	2003	15	0	1.2	NA	No	Erosion of natural deposits
Chlorine (ppm)	2006	[4]	[4]	1.33	0.01–1.33	No	Water additive used to control microbes
Fluoride (ppm)	2006	4	4	0.84	0.1–0.84	No	Erosion of natural deposits; Water additive which promotes strong teeth; Discharge from fertilizer and aluminum factories
Nitrate (ppm)	2006	10	10	2.6	NA	No	Runoff from fertilizer use; Leaching from septic tanks, sewage; Erosion of natural deposits
TTHMs [Total Trihalomethanes] (ppb)	2006	80	NA	21.1	NA	No	By-product of drinking water chlorination

Tap water samples were collected from sample sites throughout the community

SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	ACTION LEVEL	MCLG	AMOUNT DETECTED (90TH% TILE)	SITES ABOVE ACTION LEVEL	VIOLATION	TYPICAL SOURCE
Copper (ppm)	2005	1.3	1.3	0.4	1	No	Corrosion of household plumbing systems; Erosion of natural deposits; Leaching from wood preservatives
Lead (ppb)	2005	15	0	6	2	No	Corrosion of household plumbing systems; Erosion of natural deposits

OTHER REGULATED SUBSTANCES							
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	MCL [MRDL]	MCLG [MRDLG]	AMOUNT DETECTED	RANGE LOW-HIGH	VIOLATION	TYPICAL SOURCE
Perchlorate (ppb)	2006	2	NA	0.15	NA	No	Blasting agents; Fireworks; Military munitions

UNREGULATED SUBSTANCES ¹				
SUBSTANCE (UNIT OF MEASURE)	YEAR SAMPLED	AMOUNT DETECTED	RANGE LOW-HIGH	TYPICAL SOURCE
Bromoform (ppb)	2006	0.51	NA	By-product of drinking water disinfection
Chloroform (ppb)	2006	1.8	0.5–1.8	By-product of drinking water disinfection

¹ Unregulated contaminants are those for which the U.S. EPA has not established drinking water standards. The purpose of unregulated contaminant monitoring is to assist the U.S. EPA in determining their occurrence in drinking water and whether future regulation is warranted.

Table Definitions

90th Percentile: Out of every 10 homes sampled, 9 were at or below this level.

AL (Action Level): The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow.

MCL (Maximum Contaminant Level): The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

MCLG (Maximum Contaminant Level Goal): The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

MRDL (Maximum Residual Disinfectant Level): The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

MRDLG (Maximum Residual Disinfectant Level Goal): The level of a drinking water disinfectant below which there is no known

or expected risk to health. MRDLGs do not reflect the benefits of the use of disinfectants to control microbial contaminants.

NA: Not applicable

pCi/L (picocuries per liter): A measure of radioactivity.

ppb (parts per billion): One part substance per billion parts water (or micrograms per liter).

ppm (parts per million): One part substance per million parts water (or milligrams per liter).